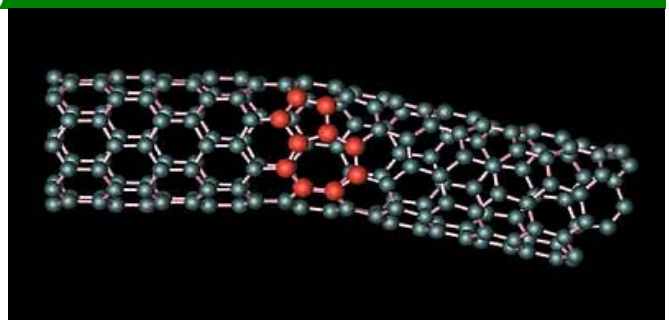
REF: 09 DESIGN FEATURES

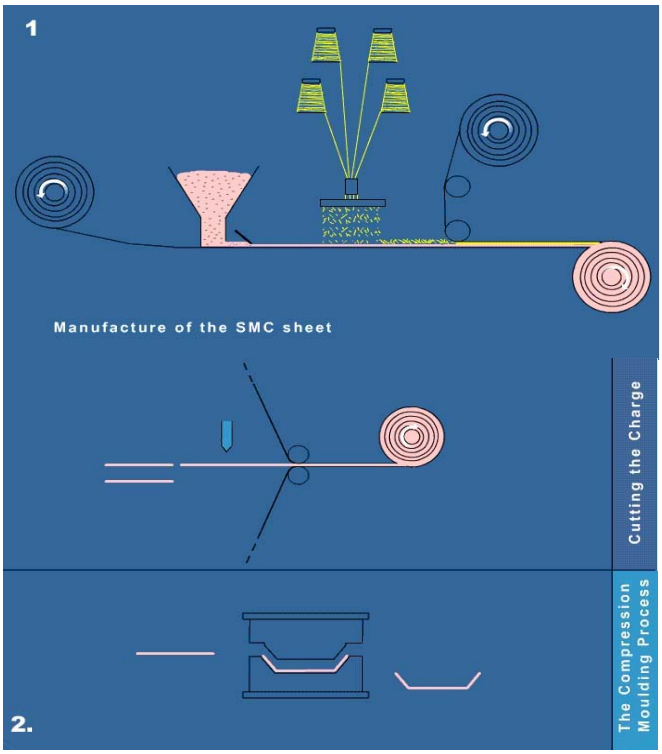
FEATURE 1: SHEET MOULDING COMPOUND (S.M.C.)

Sheet moulding compound or sheet moulding composite is a ready to mould fibre reinforced polyester material primarily used in compression moulding. The sheet is being provided in rolls up to 400kg.

Compression moulding is a method of moulding in which the moulding material, generally preheated, is first placed in an open, heated mould cavity. The mould is closed with a top force or plug member, pressure is applied to force the material into contact with all mould areas, and heat and pressure are maintained until the moulding material has cured.



Louie-nanotube



The process employs thermosetting resins in a partially cured stage, either in the form of granules, putty-like masses, or preforms. Compression moulding is a high-volume, high-pressure method suitable for moulding complex, high-strength fiberglass reinforcements.

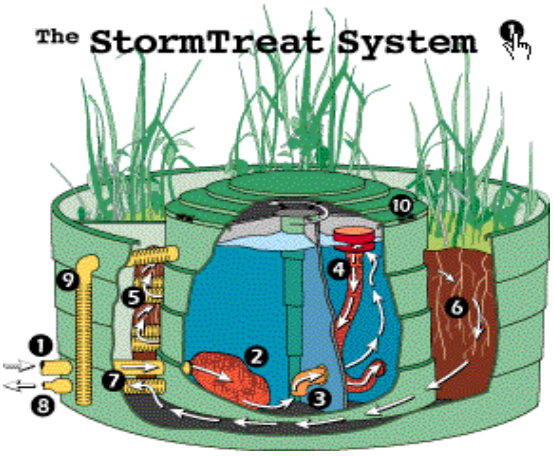
Advanced composite thermoplastics can also be compression molded with unidirectional tapes, woven fabrics, randomly orientated fiber mat or chopped strand. The advantage of compression moulding is its ability to mould large, fairly intricate parts. Compression moulding produces fewer knit lines and less fiber-length degradation than injection moulding.
This methodology is used for most of rubber products.

Produced by Omnia Tech s.r.l.Via V. Monti, 1120124 MILANO, Italy, Modula®*city* is an extraordinary technique, making the dream of our Modular Home come true.

The characteristics of their innovative S.M.C. allow for both an elevated mechanical and thermal resistance (both heat and cold), a fine tolerance to chemical and atmospheric agents. Having found extensive applications automobile and aeronautical aircraft industries, it appears that S.M.C. have finally found its recognition in construction and sustainabilty, and not a moment too soon.

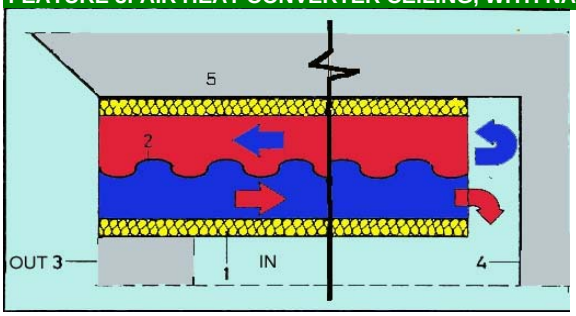
FEATURE 2: RAINWATER COLLECTION AND TREATMENT

Surface water can easily be utilized in this EcoHouse design to reduce the domestic water consumption expenses. Being earth-sheltered, the water tank is protected from extremely low or high temperatures. The earth falls around the tank are profiled in such a way as to funnel the rainwater into the tank.



The collected water is then thoroughly treated for domestic consumption using the state-of-the-art StormTreat System™ produced by StormTreat Systems, Inc. Rainwater is treated by 100% biological means and is 100% safe for domestic use.

FEATURE 3: AIR HEAT CONVERTER CEILING, WITH NATURAL VENTILATION

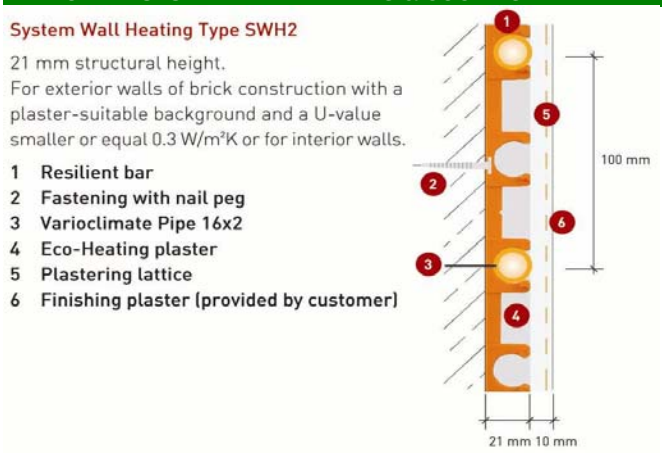


LEGEND:

1 Lower insulated ceiling surface
2 Metal divider
3 Southern wall of the EcoHouse
4 Northern wall of the EcoHouse
5 Upper insulated ceiling surface

Recycled exhaust and foul indoor air can be used to heat the cool outdoor air entering your EcoHouse. The ceiling runs the length from northern to southern wall respectively, so that the rising, hot indoor air heats up the incoming cool/cold air, using the principles of convection.

FEATURE 4: SYSTEM WALL HEATING & COOLING



System Wall Heating and Cooling, produced by the Austrian firm Variotherm and used in our EcoHouse designs, increase the human comfort level considerably. They produce longwaved horizontal infrared radiant heat which provides ultimate comfort, just like sun warmth which is also radiant heat. Alternately, they can be used for cooling throughout the summer season.
Unlike heat from conventional heating systems radiant heat does not travel upwards and dust circulation is avoided, so they provide a healthy room climate.
Heating operates with lowest possible water heating temperature, which means it can be provided by the Solar Domestic Hot Water (SDHW) Systems. It is a Large-area ow temperature system, and through use of wall storage, provide exceptional energy saving and cold water circulation converts wall heating into wall cooling in summer.

Find EcoHouse-Plans (Find ecological home plans at EcoHouse-Plans.com)

Ferid Abbasher and Associates

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